

COMPOSITION FOR THE PRODUCTION A REFRACTORY CERAMIC SOLID  
BODY, SOLID BODIES FORMED THEREFROM AND USE

PATENT CLAIMS

1. Composition for the production of a refractory ceramic moulded body which comprises at least one component containing MgO and at least one component containing CaO in a grain size of  $< 8$  mm and has the following oxide analysis:
  - a) 50 to 90 % by weight of MgO
  - b) 8 to 40 % by weight of CaO,
  - c) 1 to 8 % by weight of  $\text{Fe}_2\text{O}_3$ ,
  - d) up to 10 % by weight of others,the sum total of a) to d) being 100 % by weight.
2. Composition according to claim 1 in which at least one CaO-containing component has a grain size of  $> 2$  mm.
3. Composition according to claim 1 in which at least one CaO-containing component has a grain size of  $< 5$  mm.
4. Composition according to claim 1 in which at least one MgO-containing component has a degree of purity of  $> 90$  % by weight MgO.
5. Composition according to claim 4 in which the MgO-containing component with a degree of purity of  $> 90$  % by weight has a grain size of  $< 5$  mm.
6. Composition according to claim 4 in which the MgO-containing component with a degree of purity of  $> 90$  % by weight has a grain size of  $< 2$  mm.

7. Composition according to claim 4 in which the MgO-containing component with a degree of purity of > 90 % by weight has a grain size of < 0.3 mm.
8. Composition according to claim 1 in which the mean grain size ( $d_{50}$ ) of the CaO-containing component is greater than the mean grain size ( $d_{50}$ ) of the MgO-containing component with a degree of purity > 90 % by weight.
9. Composition according to claim 1 in which the grain size ( $d_{95}$ ) of the CaO-containing component is greater than the grain size ( $d_{95}$ ) of the MgO-containing component with a degree of purity of > 90 % by weight.
10. Composition according to claim 1 in which at least one CaO-containing component has a grain size of < 1 mm.
11. Composition according to claim 1 in which at least one CaO-containing component has a grain size of < 0.3 mm.
12. Composition according to claim 1 with an  $\text{Fe}_2\text{O}_3$  content of > 1.5 % by weight.
13. Composition according to claim 1 with an  $\text{Fe}_2\text{O}_3$  content of > 2 % by weight.
14. Composition according to claim 1 with a proportion of an MgO-CaO melt grain component.
15. Composition according to claim 1 in which the oxide analysis exhibits at least one of the following oxides:  $\text{MnO}$ ,  $\text{TiO}_2$ ,  $\text{ZrO}_2$ ,  $\text{SiO}_2$ .
16. Non-fired ceramic moulded body of a composition according to claim 1 and a binder.

17. Fired ceramic moulded body produced from a non-fired ceramic moulded body according to claim 16 following firing at a temperature of  $> 1,400\text{ }^{\circ}\text{C}$ .
18. Moulded body according to claim 17 with a raw density of  $> 3\text{ g/cm}^3$ .
19. Moulded body according to claim 17 with an open porosity of  $< 14\%$  by volume.
20. Moulded body according to claim 17 with a test value  $T_{0.5}$  according to DIN EN 993-8 (1997) of between  $1,400$  and  $1,700\text{ }^{\circ}\text{C}$ .
21. Use of a moulded body according to claim 17 for lining of a rotary kiln.